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SHOOK, HARDY & BACON L.L.P.
(MICROSOFT CORPORATION)
INTELLECTUAL PROPERTY DEPARTMENT
2555 GRAND BOULEVARD
KANSAS CITY, MO 64108-2613

EXAMINER	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/724,950	WILSON ET AL.	
	Examiner	**Art Unit**	
	Jordany Núñez	2175	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 January 2011*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,5,7,8,10-13,16,18,19,24,25,27,28 and 30-53* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,5,7,8,10-13,16,18,19,24,25,27,28 and 30-53* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *attached*.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1, 5, 10, 39-44, 53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kanevsky et al. (US6421453, hereinafter Kanevsky) in view of Kumar et al. (US6147678, hereinafter Kumar).

As to claim 1:

Kanevsky shows a system that facilitates a user interface, comprising:

a tracking component to detect motion of a group of moving pixels included in two or more images (fig. 13a; col. 22, l. 61 to col. 23, l. 8);

at least two video capturing sources (e.g., stereo camera system) configured to receive a user command to control a computer system (col. 5, l. 27-29; fig. 5, el. 501), wherein the user command is received from a gesture extracted from the group of moving pixels (e.g., clustered frames) included in the two or more images (e.g., string of frames) captured by the at least two video capturing sources (col. 15, l. 61 to col. 16, l. 4), and wherein control of the computer system comprises controlling computer programs without a cursor (column 5, lines 10-16);

and a 3-D imaging component that receives the gesture in the form of a gesture image, processes the gesture image, and interprets the gesture image to execute the user command for control of the computer system (column 32, lines 51-56), and the imaging component permits different users to select different commands from a plurality of user commands executable by the computer system (col. 5, l. 10-16), to associate with the received gesture such that the received gesture executes the user command based on a user profile and on a particular application executing on the computer system, wherein the gesture image causes execution of the user command by the computer system (col. 6, l. 56-67; col. 7, l. 55-66; col. 31, l. 7-15; col. 28, l. 19-26).

Kanevsky fails to specifically show: wherein the tracking component detects motion when the sum of the absolute differences of at least one pixel within the two or more images is above a specified threshold; wherein control of the computer system comprises controlling computer programs by <u>manipulating on-screen objects</u> [emphasis added].

In the same field of invention of three-dimensional computer interface, Kumar teaches: a gesture-based three-dimensional interface using images of hand gestures. Kumar further teaches: wherein the tracking component detects motion when the sum of the absolute differences of at least one pixel within the two or more images is above a specified threshold (col. 7, l. 1-12); wherein control of the computer system comprises controlling computer programs by manipulating on-screen objects (col. 10, l. 12-16; col. 10, l. 59-63).

Thus, it would have been obvious to one of ordinary skill in the art, having the teachings of Kanevsky and Kumar at the time that the invention was made, to have combined the presenting and

manipulating 3-D images of system data in response to presenting the gestures of Kumar with the system as taught by Kanevsky.

One would have been motivated to make such combination because a way to enable common and intuitive hand gestures and hand motions to be used for interacting with a three-dimensional virtual environment would have been obtained and desired, as expressly taught by Kumar (column 2, lines 20-23).

As to claim 5, Kanevsky shows:

The system of claim 1, further comprising a voice communication system that receives voice signals that are used singly or in combination with the gesture to control the computer system (column 14, lines 17-24).

As to claim 10, Kanevsky shows:

A computer readable medium having stored thereon computer executable instructions for carrying out the system of claim 1 (abstract).

As to claim 39, Kanevsky shows:

The system of claim 1, the 3-D imaging component captures a gesture formed by using at least one hand (column 32, lines 51-56).

As to claim 40, Kanevsky shows:

The system of claim 1, the 3-D imaging component captures a gesture formed using a head movement (column 32, lines 51-56).

As to claim 41, Kanevsky shows:

The system of claim 1, the 3-D imaging component initiates a confirmation request signal in response to receiving the gesture (column 15, lines 48-53).

As to claim 42, Kanevsky shows:

The system of claim 1, the 3-D imaging component detects gesture characteristics in the captured gesture, which gesture characteristics include at least one of hand movement, finger count, finger orientation, hand orientation, and hand rotation (column 32, lines 51-56).

As to claim 43, Kanevsky shows:

The system of claim 1, the 3-D imaging component continually monitors location of a given user bearing a tag via a triangulation system, and associates the location data with captured image data such that gestures from that location will be processed against associated user profile to properly execute the user command (column 7, lines 19-27) (e.g., the camera reads the identification information on a users card, and triangulates the information with behavioral passwords and other recognition means to arrive at a determination that a user is authorized or not).

As to claim 44, Kanevsky shows:

The system of claim 1, the 3-D imaging component controls windows in the computer system based on dwell time of the received gesture wherein dwell time is a time after having engaged the computer system, that the user holds their hand position stationary such that a system icon remains over a particular window (column 23, lines 3-7).

As to claim 53, Kanevsky shows:

further comprising a classifier that tracks, processes, compares and updates a user profile when a command gesture associated with a particular user command is changed within a specified criterion after a calibration process (col. 5, l. 20-24; col. 12, l. 38-48).

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kanevsky in view of Kumar, further in view of Kazama et al. (US6111580, hereinafter Kazama).

As to claim 7:

Kanevsky and Kumar show a system substantially as claimed, as specified above.

Kanevsky and Kumar fail to specifically show: determining when an operator is looking in the direction of the computer system.

In the same field of invention enabling a user to operate equipment using gesture input (column 1, lines 5-10), Kazama teaches: an apparatus and method for controlling an electronic device. Kazama further teaches: controlling an apparatus according to the user's gaze of sight and gesture directed to the center point of a display (column 3, lines 60-67).

Thus, it would have been obvious to one of ordinary skill in the art, having the teachings of Kanevsky, Kumar and Kazama at the time that the invention was made, to have combined the controlling an apparatus according to the user's gaze of sight and gesture directed to the center point of a display of Kazama with the system as taught by Kanevsky and Kumar.

One would have been motivated to make such combination because a way to activate equipment simply by a simple action of a user would have been obtained and desired, as expressly taught by Kazama (column 2, lines 10-13).

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kanevsky in view of Kumar, further in view of Dempski et al (US7007236, hereinafter Dempski).

As to claim 8:

Kanevsky and Kumar show a system substantially as claimed, as specified above.

Kanevsky and Kumar fail to specifically show: the 3-D imaging component is distributed across the computer system and at least one other computer system.

In the same field of invention, Dempski teaches: a lab window collaboration system. Dempski further teaches: a 3-D imaging system that is distributed (figure 1).

Thus, it would have been obvious to one of ordinary skill in the art, having the teachings of Kanevsky, Kumar and Dempski at the time that the invention was made, to have combined the 3-D imaging system that is distributed of Dempski with the system as taught by Kanevsky and Kumar.

One would have been motivated to make such combination because a way to enable merging of video conferencing and three-dimensional computer applications would have been obtained and desired, as expressly taught by Dempski (column 1, lines 46-50).

Claims 11-13, 16, 18, 45-51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kanevsky et al. (US6421453, hereinafter Kanevsky) in view of Oohara et al. (US5801704, hereinafter Oohara).

As to claim 11:

Kanevsky shows a system that facilitates a user interface in a medical environment (column 10, lines 19-22), comprising:

One or more cameras to capture (col. 5, l. 27-29; fig. 5, el. 501) a user command to control an object (e.g., access to a building, or door) of a computer system received as a gesture, wherein the object is a device connected to the computer or an application running on the computer (e.g., because the computer controls access to a door, the door is connected to the computer), the gesture utilized to control the object of the computer system without a cursor (column 5, lines 10-16; column 8, lines 24-26);

a 3-D imaging component that receives the gesture in the form of a gesture image, processes the gesture image, and interprets the gesture image to execute the user command for control of the computer system (column 32, lines 51-56), the imaging component permits user selection of association of gestures with user commands selected from a plurality of user commands executable by the computer (col. 5, l. 10-16), wherein different users employ different gestures for execution of a given command, the

association being determined during execution based on a user profile and on a particular application executing on the computer system, wherein the gesture image effects execution of the user command by the computer system (col. 7, l. 55-66; col. 31, l. 7-15; col. 28, l. 19-26).

Kanevsky fails to specifically show: a wireless control device worn by the user, comprising sensors that measure orientation of the wireless device, the orientation information utilized to determine selection of the object.

In the same field of invention three-dimensional gesture recognition, Oohara teaches: a wireless control device worn by the user (fig. 12), comprising sensors that measure orientation of the device (fig. 11), the orientation information utilized to determine selection of the object (abstract), the gesture utilized to control the object of the computer system (fig. 1).

Thus, it would have been obvious to one of ordinary skill in the art, having the teachings of Kanevsky and Oohara at the time that the invention was made, to have combined the wireless control device worn by the user, comprising sensors that measure orientation of the device, the orientation information utilized to determine selection of the object, the gesture utilized to control the object of the computer system of Oohara with the system as taught by Kanevsky.

One would have been motivated to make such combination because a way to enable an image system to accurately process control operation processing of a cursor would have been obtained and desired, as expressly taught by Oohara (column 1, lines 64-67).

As to claim 12, Kanevsky shows:

The system of claim 11, the wireless control device includes a sensor that outputs at least one of a single axis signal and tri-axial signal (column 31, lines 59-65) (means of indicating association is interpreted as a signal).

As to claim 13, Kanevsky shows:

The system of claim 11, the object comprises at least one of hardware and software of the control system (column 5, lines 10-16; column 8, lines 24-26).

As to claim 16, Kanevsky shows:

The system of claim 11, the gesture includes the use of both hands of an operator to cause execution of the user command (column 22, lines 9-16).

As to claim 18, Kanevsky shows:

The system of claim 11, the wireless control device is used to determine when line of sight of an operator interacts with computer system for control of the object (column 7, lines 19-26).

As to claim 45, Oohara shows:

The system of claim 11, the 3-D imaging component utilizes the captured gesture to facilitate rotation of data presented by the computer system about at least one of an axis and a vertex of the data (col. 4, line 1; fig. 3, “Rotation”).

As to claim 46, Kanevsky shows:

The system of claim 11, the 3-D imaging component utilizes the captured gesture to manipulate image data presented by the computer system, which manipulation of data includes at least one axis translation, zoom control, and paging through multiple images of the image data (e.g., frames) (column 23, lines 3-7).

As to claim 47, Kanevsky shows:

The system of claim 11, the 3-D imaging component associates the captured gesture with a unique user (column 11, line 65 to column 12, line 4).

As to claim 48, Kanevsky shows:

The system of claim 11, the 3-D imaging component further comprising processing subsequent gesture images to interpret the gesture for manipulation of the object (column 1, line 63 to column 2, line 5).

As to claim 49, Kanevsky shows:

The system of claim 11, the 3-D imaging component further comprising presenting the gesture as at least one of a hand manipulation, a gaze signal, or a vocalization, to control the object (column 32, lines 51-56; column 10, lines 63-67).

As to claim 50, Kanevsky shows:

The system of claim 11, the 3-D imaging component automatically changes user profiles when a user programmed to interact therewith has been replaced by a second user (column 30, lines 50-59).

As to claim 51, Oohara shows:

the 3-D imaging component utilizing the captured gesture to facilitate rotation of data presented by the computer system about at least one of an axis and a vertex of the data, and the controlled object is associated with video data and the 3D imaging component executes the user command to at least one of start, stop, freeze or loop the video data (column 4, l. 1; fig. 3, “Rotation”).

Claims 19, 25, 52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kanevsky et al. (US6421453, hereinafter Kanevsky) in view of Sharma et al. (US7225414, hereinafter Sharma’414) in view of Sharma et al. (“Reliable tracking of Human Arm Dynamics by Multiple Cue Integration and Constraint Fusion", hereinafter Sharma’RTHA) in view of Bodin (US7394346).

As to claim 19:

Kanevsky shows a method of controlling a computer system using a gesture, comprising:

Identifying a user (col. 5, l. 2-5);

permitting different users to select different gestures for execution of a user command on the computer system (col. 5, l. 10-16);

capturing one aspect of the gesture in the form of a 3-D gesture image (column 32, lines 51-56);

processing the 3-D gesture image and utilizing a user profile to determine an associated user command preselected by a user to associate with the received gesture (col. 6, l. 61-67; column 7, lines 55-66);

and executing the user command to effect manipulation of an object of the computer system based on the selection obtained from a user profile and on a particular application executing on the computer system, wherein the object is a device connected to the computer or an application running on the computer (col. 7, l. 55-66; col. 31, l. 7-15; col. 28, l. 19-26) (e.g., users have profiles which are used to match a gesture to a command; a command for establishing communication links, or for controlling access to a door).

Kanevsky fails to specifically show: calculating depth of the captured gesture to ignore captured gestures that are outside of an engagement volume associated with the computer system; identifying a user based in part on a radio frequency signal assigned to the user; predicting a next position of the gesture to form a second 3-D gesture image via a position prediction algorithm.

In the same field of invention of virtual touch systems, Sharma'414 teaches: attracting the attention of people in public places to a multimedia display. Sharma'414 further teaches: a person being within a watcher zone and outside a user zone, the system then encouraging the person to interact with it, but not actually enabling the person to interact with the system since there is no person within the user zone (col. 5, l. 9-21) (i.e., ignoring captured gestures that are outside of an engagement volume associated with the computer system by calculating a depth of the captured gesture); predicting a next position of the gesture to form a second 3-D gesture image via a position prediction algorithm (col. 5, l. 52-54).

In the same field of invention of virtual touch systems, Sharma'RTHA teaches: reliable tracking of human arm dynamics. Sharma'RTHA further teaches: predicting a next position of the gesture to form a second 3-D gesture image via a position prediction algorithm (fig. 1).

In the same field of invention, Bodin teaches: free-space gesture recognition. Bodin further teaches: an RFID device which can be carried in a key fob and allows a user to approach a door within proximity of the access control panel, verify authorization to enter and unlock the door, and verify that the person who possess the RFID device is the actual user associated with the device by use of gestures with the RFID device (abstract; col. 2, l. 10-22).

Thus, it would have been obvious to one of ordinary skill in the art, having the teachings of Kanevsky, Sharma'414 and Bodin at the time that the invention was made, to have combined the teachings of Sharma'414 and Bodin with the method as taught by Kanevsky.

One would have been motivated to make such combination because a way to enable the convenience of RFID systems to be securely employed in applications which authorize transactions of greater significance would have been obtained and desired, as expressly taught by Bodin (column 2, lines 40-45).

As to claim 25, Kanevsky shows:

The method of claim 19, further comprising controlling the object, which object is associated with at least one of lighting, display intensity, and volume control of an audio signal (column 7, lines 55-66; column 11, lines 30-41;column 6, lines 30-40) (speech biometrics, including speech volume, of a user is associated with controlling an object).

As to claim 52, Kanevsky shows:

The method of claim 19, the associated user command is characterized according to finger usage and hand pose (column 32, lines 51-56).

Claims 24, 27, 28, are rejected under 35 U.S.C. 103(a) as being unpatentable over Kanevsky in view of Sharma'414 in view of Sharma'RTHA in view of Bodin, further in view of Oohara.

As to claims 24, 27, 28:

Kanevsky, Sharma’414, Sharma’RTHA, and Bodin show a method and computer-readable medium substantially as claimed, as specified above.

Kanevsky, Sharma’414, Sharma’RTHA, and Bodin fail to specifically show: controlling the object, which is 3-D image data, by presenting one or more gestures that facilitate at least one of rotation about an axis that corresponds to smooth rotation of a user's hand, rotation about a vertex of the 3-D image data, and stepped rotation; further comprising identifying the gesture with a user via a radio frequency tag; the tag is attached to a glove worn by the user; further comprising presenting and manipulating 3-D images of system data in response to presenting the gestures.

In the same field of invention three-dimensional gesture recognition, Oohara teaches: a three-dimensional input device. Oohara further teaches: controlling the object, which is 3-D image data, by presenting one or more gestures that facilitate at least one of rotation about an axis that corresponds to smooth rotation of a user's hand, rotation about a vertex of the 3-D image data, and stepped rotation (col. 4, l.1; fig 3, "Rotation"); further comprising identifying the gesture with a user via a radio frequency tag (e.g., position transmitters) (column 4, lines 19-26); the tag is attached to a glove worn by the user (column 4, lines 19-26); further comprising presenting and manipulating 3-D images of system data in response to presenting the gestures (figure 3).

Thus, it would have been obvious to one of ordinary skill in the art, having the teachings of Kanevsky, Sharma’414, Sharma’RTHA, Bodin and Oohara at the time that the invention was made, to have combined the teachings of Oohara with the method and computer-readable medium as taught by Kanevsky, Sharma’414, Sharma’RTHA and Bodin.

One would have been motivated to make such combination because a way to enable an image system to accurately process control operation processing of a cursor would have been obtained and desired, as expressly taught by Oohara (column 1, lines 64-67).

Claims 30-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kanevsky et al. (US6421453, hereinafter Kanevsky) in view of Sharma et al. (US7225414, hereinafter Sharma'414) in view of Bodin (US7394346).

As to claim 30, Kanevsky shows:

A method of controlling a computer system in an operating room environment, comprising:

calibrating the computer system according to a user profile of individualized gesture data by presenting associated gestures using at least one or more body motions (column 7, lines 48-59);

mapping the gesture data to at least one user command selected from a plurality of user commands that is executable by the computer system (column 5, lines 10-16), the mapping also being based on a particular application executing on the computer system;

invoking the user profile according to a unique signal that identifies the user (col. 6, l.56-67; col. 7, l. 55-66; col. 31, l. 7-15; col. 28, l. 19-26);

presenting the gestures to a 3-D imaging system for capture and processing (column 7, lines 55-66);

interpreting 3-D renderings of the gestures to retrieve the associated user commands (column 8, lines 9-16);

and executing the user commands to effect manipulation of an object of the computer system (column 8, lines 24-26).

Kanevsky fails to specifically show: calculating depth of the captured gesture to ignore captured gestures that are outside of a roaming engagement volume associated with the computer system;

a unique signal radio frequency that identifies the user.

In the same field of invention of virtual touch systems, Sharma'414teaches: attracting the attention of people in public places to a multimedia display. Sharma'414further teaches: a person being within a watcher zone and outside a user zone, the system then encouraging the person to interact with it, but not actually enabling the person to interact with the system since there is no person within the user

zone (col. 5, l. 9-21) (i.e., ignoring captured gestures that are outside of an engagement volume associated with the computer system by calculating a depth of the captured gesture).

In the same field of invention, Bodin teaches: free-space gesture recognition. Bodin further teaches: an RFID device which can be carried in a key fob and allows a user to approach a door within proximity of the access control panel, verify authorization to enter and unlock the door, and verify that the person who possess the RFID device is the actual user associated with the device by use of gestures with the RFID device (abstract; col. 2, l. 10-22).

Thus, it would have been obvious to one of ordinary skill in the art, having the teachings of Kanevsky, Sharma'414 and Bodin at the time that the invention was made, to have combined the teachings of Bodin and Sharma'414 with the method as taught by Kanevsky.

One would have been motivated to make such combination because a way to enable the convenience of RFID systems to be securely employed in applications which authorize transactions of greater significance would have been obtained and desired, as expressly taught by Bodin (column 2, lines 40-45).

As to claim 31, Kanevsky shows:

The method of claim 30, further comprising automatically including a second user profile of individualized gesture data with the user profile of individualized gesture data with when the associated second user is detected within the operating room environment (column 7, lines 55-66).

As to claim 32, Kanevsky shows:

The method of claim 30, further comprising automatically learning gesture characteristics of a user associated with the user profile, and updating the user profile with the learned gesture characteristics (column 7, lines 63-67).

As to claim 33, Kanevsky shows:

A computer-readable medium having computer-executable instructions for performing a method of controlling a computer using gestures, the method comprising:

receiving gesture calibration data in the form of 3-D images of the gestures (column 7, lines 48-59);

mapping the gesture calibration data to at least one user command that is executable by the computer system (column 5, lines 10-16), the mapping also being based on a particular application executing on the computer system (col. 7, l. 55-66; col. 31, l. 7-15; col. 28, l. 19-26);

associating the mapped gesture calibration data with a user profile of a user, wherein different users are allowed to select different commands to associate with the received gestured (column 7, lines 55-66, column 8, lines 59-62) (e.g., different commands requiring different level of security are associated with different gestures, wherein each of the received gestures causes execution of the associated different commands (col. 5, l. 10-16);

invoking the user profile according to a unique signal received from the user (column 7, lines 55-66);

processing subsequent 3-D images of the gestures received via a camera system (column 5, lines 26-31);

interpreting the subsequent 3-D images of the gestures to retrieve the associated user commands (column 8, lines 9-16);

and executing the user commands to effect manipulation of a hardware or software object of the computer system (column 8, lines 24-26).

Kanevsky fails to specifically show: calculating depth of the captured gesture to ignore captured gestures that are outside of an engagement volume associated with the computer system;

a unique radio frequency signal received from the user.

In the same field of invention of virtual touch systems, Sharma’414teaches: attracting the attention of people in public places to a multimedia display. Sharma’414further teaches: a person being within a watcher zone and outside a user zone, the system then encouraging the person to interact with it, but not actually enabling the person to interact with the system since there is no person within the user

zone (col. 5, l. 9-21) (i.e., ignoring captured gestures that are outside of an engagement volume associated with the computer system by calculating a depth of the captured gesture).

In the same field of invention, Bodin teaches: free-space gesture recognition. Bodin further teaches: an RFID device which can be carried in a key fob and allows a user to approach a door within proximity of the access control panel, verify authorization to enter and unlock the door, and verify that the person who possess the RFID device is the actual user associated with the device by use of gestures with the RFID device (abstract; col. 2, l. 10-22).

Thus, it would have been obvious to one of ordinary skill in the art, having the teachings of Kanevsky, Sharma’414 and Bodin at the time that the invention was made, to have combined the teachings of Bodin and Sharma’414 with the method as taught by Kanevsky.

One would have been motivated to make such combination because a way to enable the convenience of RFID systems to be securely employed in applications which authorize transactions of greater significance would have been obtained and desired, as expressly taught by Bodin (column 2, lines 40-45).

Claim 34 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kanevsky in view of Sharma’414 in view of Bodin, further in view of Oohara.

As to claim 34:

Kanevsky, Sharma’414and Bodin show a method and computer-readable medium substantially as claimed, as specified above.

Kanevsky, Sharma’414and Bodin fail to specifically show: controlling the object, which is 3-D image data, by presenting one or more gestures that facilitate at least one of rotation about an axis that corresponds to smooth rotation of a user's hand, rotation about a vertex of the 3-D image data, and stepped rotation; further comprising identifying the gesture with a user via a radio frequency tag; the tag is

attached to a glove worn by the user; further comprising presenting and manipulating 3-D images of system data in response to presenting the gestures.

In the same field of invention three-dimensional gesture recognition, Oohara teaches: a three-dimensional input device. Oohara further teaches: controlling the object, which is 3-D image data, by presenting one or more gestures that facilitate at least one of rotation about an axis that corresponds to smooth rotation of a user's hand, rotation about a vertex of the 3-D image data, and stepped rotation (col. 4, l.1; fig 3, "Rotation"); further comprising identifying the gesture with a user via a radio frequency tag (e.g., position transmitters) (column 4, lines 19-26); the tag is attached to a glove worn by the user (column 4, lines 19-26); further comprising presenting and manipulating 3-D images of system data in response to presenting the gestures (figure 3).

Thus, it would have been obvious to one of ordinary skill in the art, having the teachings of Kanevsky, Sharma’414, Bodin and Oohara at the time that the invention was made, to have combined the teachings of Oohara with the method and computer-readable medium as taught by Kanevsky, Sharma’414 and Bodin.

One would have been motivated to make such combination because a way to enable an image system to accurately process control operation processing of a cursor would have been obtained and desired, as expressly taught by Oohara (column 1, lines 64-67).

Claim 35 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kanevsky in view of , Sharma in view of Bodin, further in view of Pryor (US6750848, hereinafter Hildreth).

As to claim 35:

Kanevsky, Sharma, and Bodin show a method substantially as claimed, as specified above.

Kanevsky further shows: processing one or more of the gestures presented within the volume of space to effect control of the computer (column 5, lines 10-16), and a database storing a user’s medical history information (column 12, lines 55-61).

Kanevsky, Sharma, and Bodin fail to specifically show: further comprising defining a volume of space over a patient on an operating table, and processing one or more of the gestures presented within the volume of space to effect control of the computer before, during, or after an operating procedure on the patient.

In the same field of invention, Pryor teaches: useful man machine interfaces. Pryor further teaches: defining a volume of space over a person (Fig. 4, col. 5, l. 40-54).

Examiner takes official action that at the time of the instant invention that a person could be a patient, and that a computer could be used before, during, or after an operating procedure on the patient.

Thus, it would have been obvious to one of ordinary skill in the art, having the teachings of Kanevsky, Bodin, and Hildreth at the time that the invention was made, to have combined the defining a volume of space over a user of Hildreth and the well-known a user being a patient, and a computer being used before, during, or after an operating procedure on the patient with the method as taught by Kanevsky, Bodin.

One would have been motivated to make such combination because a way to provide affordable methods for inputting position, orientation, and other object characteristic data to computers would have been obtained and desired, as expressly taught by Pryor (abstract).

Claims 36-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kanevsky in view of Hildreth et al (US7227526, hereinafter Hildreth), in view of Sharma'414.

As to claims 36-38:

Kanevsky shows a system for controlling a computer during a medical procedure using one or more hand gestures of a person, comprising:

means for capturing a gesture presented by a person (column 5, lines 10-16), in the form of a 3-D image (column 5, lines 26-31);

means for processing the 3-D image of the gesture of one of multiple persons to allow recognition thereof (column 5, lines 10-16);

means for returning a computer command associated with the recognized gesture (column 5, lines 10-16), wherein different commands are returned associated with different users for the received gesture (column 7, lines 55-66, column 8, lines 59-62) (e.g., different commands requiring different level of security are associated with different gestures) and wherein the different commands are based on a particular application executing on the computer system, the different commands are executable by the computer system (col. 5, l. 10-16; col. 7, l. 55-66; col. 31, l. 7-15; col. 28, l. 19-26);

and means for executing the computer command to facilitate (e.g., not prevent) manipulation of medical information presented on a display to the medical person (column 5, lines 10-16), further comprising means for confirming use of the computer command with the recognized gesture (column 8, lines 6-16), the gesture includes means for generating an audio signal in the form of at least one of vocalizations and clicking (column 7, lines 55-66; column 11, lines 30-41;column 6, lines 30-40) (speech biometrics, including speech volume, of a user is associated with controlling an object).

Kanevsky fails to specifically show: means for tracking multiple objects and multiple persons within an engagement volume of the system; said person being a medical person.

In the same field of the invention Sharma'414 teaches: virtual touch entertainment. Sharma'414 further teaches: means for tracking multiple objects and multiple persons within an engagement volume of the system (col. 14, l. 4-13).

It would have been obvious to one of ordinary skill in the art, having the teachings of Kanevsky at the time that the invention was made, to have included said person being a medical person with the system as taught by Kanevsky.

One would have been motivated to make such combination because a way to enable access to a computer when impractical to use a computer mouse or track ball would have been obtained and desired, as expressly taught by Hildreth (column 1, lines 34-38).

References to specific columns, figures or lines should not be limiting in any way. The entire reference provides disclosure related to the claimed invention.

Response to Arguments

Applicant's arguments have been fully considered but are not persuasive. Examiner reiterates that references to specific columns, figures or lines should not be limiting in any way. The entire reference provides disclosure related to the claimed invention. Applicant argues that:

1) The gestures of Kanevsky are basically access codes to identify a person. In contrast, Applicants' claimed gestures cause or effect execution of a user command (page 14, first paragraph)

Examiner disagrees.

Kanvesky (abstract) describes a recognition system (e.g., a computer) that provides access control based on pre-stored gestures saved by an authentication system. Gestures are input into the system through cameras digitized, and matched against the stored gestures to provide or deny access control (e.g., see fig 5). Further, Kanevsky (col. 5, l. 11-19) teaches processing multiple commands from multiple users where the command has a different meaning to each of the users, and customizing a computer to the specific preferences of each user. Thus, Kanevsky explicitly teaches Applicants' claimed gestures causing execution of a user command.

2) Sharma may describe multiple engaging volumes but the user moves through each stationary engagement volume, as opposed to a moveable or roaming engagement volume (page 16, last paragraph).

Examiner disagrees.

Sharma explicitly teaches a dynamic (e.g., movable) image-capturing system (col. 7, l. 66 to col. 8, l. 8),

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Oh	[U.S. 5616078]
Maggioni	[U.S. 5828779]
Platzker et al.	[U.S. 5528263]

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jordany Núñez whose telephone number is (571)272-2753. The examiner can normally be reached on Monday Through Thursday 9am-7:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Bashore can be reached on (571) 272-4088. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JN
1/23/2011

/William L. Bashore/
Supervisory Patent Examiner, Art Unit 2175